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AUTOMATIC ENGINE STOP AND RESTART MODE FOR REDUCING EMISSIONS OF A HYBRID ELECTRIC VEHICLE

ABSTRACT OF THE DISCLOSURE

This novel silent operating mode for a hybrid electric vehicle (HEV) reduces noise and emissions compared to traditional HEV operating modes. It is a complementary series of software control functions that allows the vehicle to operate with reduced noise and emissions where specifically needed, while phasing-in engine power where allowed. The method utilizes an energy storage system budget associated with a modal quantity of energy allocated for the mode, and is adapted to automatically adjust the operation of the vehicle to accommodate deviations from the budgeted energy amount. The mode also adjusts the vehicle operation in conjunction with changes in the parametric conditions of the ESS.